hermetically at the part held in the stand,, is five inches in length, and 0.6 of an inch in diameter; the neck about nine inches in length,, and 04 of an inch in diameter internally.
The figure will fully indicate the construction.

447. It can hardly be requisite to remark, that in the arrangement of any of these forms of apparatus, they, and the wires connecting them with the substance, which is collaterally subjected to the action of the same electric current, should be so far insulated as to ensure a certainty that all the electricity which passes through the one shall also be transmitted through the other.

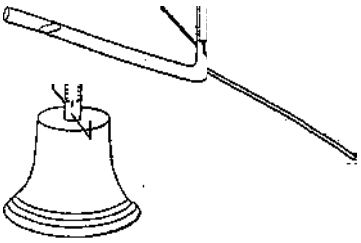

Fig 25.

Fig. 26.

448. Next to the precaution of collecting the gases, if mingled,, out of contact with the platinum, was the necessity of testing the law of a *definite electrolytic* action, upon water at least, under all varieties of condition; that, with a conviction of its certainty, might also be obtained a knowledge of those interfering circumstances which would require to be practically guarded against.

449. The first point investigated was the influenc • or indifference of extensive variations in the size of the electrodes, for which purpose instruments like those last described (444, 445, 446) were used. One of these had plates 0.7 of an inch wide, and nearly four inches long; another had plates only 0.5 of an inch wide, and 0.8 of an inch long; a third had wires 0.02 of an inch in diameter, and three inches long; and a fourth, similar wires only half an inch in length. Yet when these were filled with dilute sulphuric acid, and, being placed in succession, had one common current of electricity passed through them, very nearly the same quantity of gas was evolved in all. The difference was sometimes in favour of one, and sometimes on